

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of the claims in this application:

LISTING OF CLAIMS

1. (Currently Amended) A method for analyzing compliance, of one or more pieces of equipment, with a payload standard, the method comprising:

determining a ~~first~~ target payload ~~weight~~ for the one or more pieces of equipment;

obtaining a ~~plurality of~~ payload weight data for weights of the one or more pieces of equipment;

comparing the obtained ~~plurality of~~ payload weight data weights with the determined ~~first~~ target payload ~~weight~~;

analyzing compliance with the payload standard based on the results of the comparison; and

calculating a modified ~~second~~ target payload weight based on an analysis of previous payload weight. ~~by:~~

~~calculating a standard deviation based on the plurality of payload weights of the one or more pieces of equipment, and~~

~~determining the second target payload weight for the one or more pieces of equipment based on the standard deviation and a maximum acceptable target payload weight for the one or more pieces of equipment, the maximum acceptable target payload weight being based on the first target payload weight.~~

2. (Original) The method of claim 1, wherein the step of analyzing compliance includes the steps of:

analyzing compliance with a first payload standard based on the results of the comparison; and

analyzing compliance with a second payload standard based on the results of the comparison, wherein the first payload standard does not equal the second payload standard.

3. (Currently Amended) The method of claim 1, wherein the ~~first~~ target payload ~~weight~~ is determined based on at least one of the following features: slope of terrain[[,]] or type of terrain[[,]] ~~or type of payload~~.

4. (Original) The method of claim 1, further including the step of determining an empty machine weight for the equipment type, the step including:

obtaining an empty machine weight for two or more pieces of equipment of the equipment type; and

calculating an average of the obtained empty machine weights.

5. (Original) The method of claim 1, further including the step of determining an empty machine weight for the vehicle type, the step including:

obtaining an empty machine weight for two or more pieces of equipment, wherein the two or more pieces of equipment are members of a fleet of equipment of the equipment type; calculating an average of the obtained empty machine weights; and

applying the average as the determined empty machine weight for each piece of equipment in the fleet.

6. (Original) The method of claim 1, wherein the step of determining a target payload includes the steps of:

determining an empty machine weight for the equipment type;

determining a maximum gross machine weight for the equipment type; and

subtracting the determined empty machine weight from the determined maximum gross machine weight.

7. (Currently Amended) The method of claim 1, wherein the step of analyzing compliance includes the steps of:

calculating a mean payload value ~~weight~~ based on the ~~plurality of payload weights~~ weight data;

calculating a standard deviation based on the payload weight data; and

determining a distribution of payloads based on the calculated mean payload value ~~weight~~ and the calculated standard deviation.

8. (Currently Amended) The method of claim 1, wherein the payload standard includes an acceptable ~~payload~~ overload value ~~weight for the one or more pieces of~~

~~equipment~~ and an unacceptable ~~payload~~ overload value ~~weight for the one or more pieces of equipment~~, and the step of analyzing compliance includes the steps of:

determining a first percentage of the ~~plurality of payload~~ weight data where each payload weight included in the first percentage is ~~weights that are~~ less than the acceptable ~~payload~~ overload weight value; and

determining a second percentage of the ~~plurality of payload~~ weight data, where each payload weight included in the second percentage is ~~weights that are~~ greater than the unacceptable ~~payload~~ overload weight value.

9. (Currently Amended) The method of claim 8, wherein the step of determining [[the]] a second percentage includes the steps of:

choosing the lesser of the unacceptable ~~payload~~ overload weight value or a maximum gross machine weight as a maximum threshold; and

determining a wherein the payload weights of the second percentage of the plurality of payload weight data, where each payload weight included in the second percentage is [[are]] greater than the maximum threshold.

10. (Original) The method of claim 8, further including the step of:
providing a compliance rating for the one or more pieces of equipment based on the determined first and second percentages.

11. (Original) The method of claim 1, wherein the step of analyzing compliance includes the step of:

providing a compliance rating for the one or more pieces of equipment based on the results of the comparison.

12. (Original) The method of claim 1, wherein the step of analyzing compliance includes the step of:

providing a compliance rating for the one or more pieces of equipment based on a set of one or more predetermined factors.

13. (Original) The method of claim 1, further including the step of:
displaying graphical results illustrating the results of the compliance analysis.

14. (Canceled)

15. (Currently Amended) The method of claim 1, wherein the step of calculating a modified ~~the second~~ target payload weight ~~further~~ includes the ~~steps~~ step of:

calculating a standard deviation of the payload weight data;

multiplying the standard deviation of the payload weight data by a predetermined factor to obtain an offset; and

subtracting the offset from ~~[[the]]~~ a maximum acceptable payload ~~overload~~ weight.

16. (Original) The method of claim 1, further comprising the step of:

determining equipment identification information about the one or more pieces of equipment.

17. (Currently Amended) A computer-readable storage medium storing instructions for performing a method, when executed by a processor, for analyzing compliance, of one or more pieces of equipment, with a payload standard, the method comprising:

determining a ~~first~~ target payload ~~weight~~ for the one or more pieces of equipment;

obtaining a ~~plurality of~~ payload weight data for ~~weights of~~ the one or more pieces of equipment;

comparing the obtained ~~plurality of~~ payload weight data ~~weights~~ with the determined ~~first~~ target payload ~~weight~~;

analyzing compliance with the payload standard based on the results of the comparison; and

calculating a modified ~~second~~ target payload weight based on an analysis of previous payload weight. ~~by:~~

~~calculating a standard deviation based on the plurality of payload weights of the one or more pieces of equipment, and~~

~~determining the second target payload weight for the one or more pieces of equipment based on the standard deviation and a maximum acceptable target payload weight for the one or more pieces of equipment, the maximum acceptable target payload weight being based on the first target payload weight.~~

18. (Original) The computer-readable medium of claim 17, wherein the step of analyzing compliance includes the steps of:

analyzing compliance with a first payload standard based on the results of the comparison; and

analyzing compliance with a second payload standard based on the results of the comparison, wherein the first payload standard does not equal the second payload standard.

19. (Currently Amended) The computer-readable medium of claim 17, wherein the ~~first~~ target payload ~~weight~~ is determined based on at least one of the following features: slope of terrain[[,]] or type of terrain[[,]] ~~or type of payload~~.

20. (Original) The computer-readable medium of claim 17, wherein the method further includes the step of determining an empty machine weight for the equipment type, the step including:

obtaining an empty machine weight for two or more pieces of equipment of the equipment type; and

calculating an average of the obtained empty machine weights.

21. (Original) The computer-readable medium of claim 17, wherein the method further includes the step of determining an empty machine weight for the equipment type, the step including:

obtaining an empty machine weight for two or more pieces of equipment, wherein the two or more pieces of equipment are members of a fleet of pieces of equipment of the equipment type;

calculating an average of the obtained empty machine weights; and

applying the average as the determined empty machine weight for each piece of equipment in the fleet.

22. (Original) The computer-readable medium of claim 17, wherein the step of determining a target payload includes the steps of:

determining an empty machine weight for the equipment type;

determining a maximum gross machine weight for the equipment type; and

subtracting the determined empty machine weight from the determined maximum gross machine weight.

23. (Currently Amended) The computer-readable medium of claim 17, wherein the step of analyzing compliance includes the steps of:

calculating a mean payload value ~~weight~~ based on the ~~plurality of payload weights~~ weight data;

calculating a standard deviation based on the payload weight data; and

determining a distribution of payloads based on the calculated mean payload value ~~weight~~ and the calculated standard deviation.

24. (Currently Amended) The computer-readable medium of claim 17, wherein the payload standard includes an acceptable ~~payload~~ overload value ~~weight for the one or more pieces of equipment~~ and an unacceptable ~~payload~~ overload value ~~weight for the one or more pieces of equipment~~, and the step of analyzing compliance includes the steps of:

determining a first percentage of the ~~plurality of payload~~ weight data where each payload weight included in the first percentage is ~~weights that are~~ less than the acceptable ~~payload~~ overload weight value; and

determining a second percentage of the ~~plurality of payload~~ weight data, where each payload weight included in the second percentage is ~~weights that are~~ greater than the unacceptable ~~payload~~ overload weight value.

25. (Currently Amended) The computer-readable medium of claim 24, wherein the step of determining a second percentage includes the steps of:

choosing the lesser of the unacceptable ~~payload~~ overload weight value or a maximum gross machine weight as a maximum threshold; and

determining a ~~wherein the payload weights of the~~ second percentage of the ~~plurality of~~ payload weight data, where each payload weight included in the second percentage is ~~[[are]]~~ greater than the maximum threshold.

26. (Original) The computer-readable medium of claim 24, further including the step of:

providing a compliance rating for the one or more pieces of equipment based on the determined first and second percentages.

27. (Original) The computer-readable medium of claim 17, wherein the step of analyzing compliance includes the step of:

providing a compliance rating for the one or more pieces of equipment based on the results of the comparison.

28. (Original) The computer-readable medium of claim 17, wherein the step of analyzing compliance includes the step of:

providing a compliance rating for the one or more pieces of equipment based on a set of one or more predetermined factors.

29. (Original) The computer-readable medium of claim 17 wherein the method further includes the step of:

displaying graphical results illustrating the results of the compliance analysis.

30. (Canceled)

31. (Currently Amended) The computer-readable medium of claim 17, wherein the step of calculating a modified ~~the second~~ target payload weight ~~further~~ includes the ~~steps~~ step of:

calculating a standard deviation of the payload weight data;

multiplying the standard deviation of the payload weight data by a predetermined factor to obtain an offset; and

subtracting the offset from [[the]] a maximum acceptable payload ~~overload~~ weight.

32. (Original) The computer-readable medium of claim 17, wherein the method further includes the step of:

determining equipment identification information about the one or more pieces of equipment.

33. (Currently Amended) A system for analyzing compliance, of one or more pieces of equipment, with a payload standard, the system comprising:

an input module for receiving data about the ~~a plurality of payload weights of the~~ one or more pieces of equipment;

a processing module, connected to the input module, for~~[[:]]~~

analyzing the data about the one or more pieces of equipment the plurality of payload weights based on the payload standard, and for

~~receiving a first target payload weight for the one or more pieces of equipment, and~~

calculating ~~determining~~ a modified payload standard based on compliance analysis ~~by~~ ~~calculating a standard deviation based on the plurality of payload weights of the one or more pieces of equipment, and determining the second target weight based on the standard~~

~~deviation and a maximum acceptable target payload of the one or more pieces of equipment, the maximum acceptable target payload weight based on the first target payload weight; and~~
an output module, connected to the processing module, for providing the results of the analysis of the data.

34. (Original) The system of claim 33, wherein the input module is connected to at least one of a network connection, a device for accessing stored data, or a data input device.

35. (Original) The system of claim 33, wherein the one or more pieces of equipment are connected to the input module by a network connection.

36. (Original) The system of claim 33, wherein the output module is connected to at least one of a monitor, a printer, a device to store data, or a device to send data over a network.

37. (Currently Amended) The system of claim 33, wherein the processing module includes: a payload database; a processor; and an equipment database; wherein the payload database includes payload weight data from the one or more pieces of equipment and the equipment database contains data about the payload standard.

38. (Currently Amended) A method for reviewing a request for warranty service on a piece of equipment subject to a payload standard, the method comprising:

receiving ~~a plurality of payload weights~~ weight data associated with the piece of equipment;

analyzing the ~~plurality of payload~~ weight data ~~weights~~ for compliance with the payload standard ~~by:~~

~~receiving a target payload weight for the piece of equipment;~~

~~calculating a number of the plurality of payload weights that are less than an acceptable payload overload weight for the piece of equipment, the payload overload weight being based on the target payload weight,~~

~~calculating a number of the plurality of payload weights that are greater than an unacceptable payload overload weight for the piece of equipment, the unacceptable payload weight being greater than the acceptable payload weight, and~~

~~determining compliance with the payload standard based on at least one of the number of the plurality of payload weights less than the acceptable payload overload weight and the number of the plurality of payload weights greater than the unacceptable payload overload weight; and~~

responding to the request for warranty service based on the analysis.

39. (Currently Amended) The method of claim 38, wherein the step of analyzing the ~~plurality of payload weights~~ further weight data includes:

determining a first percentage of the ~~plurality of payload weights that are weight data~~ where each payload weight included in the first percentage is less than an [[the]] acceptable payload overload weight value; and

determining if the first percentage is less than a predetermined threshold value.

40. (Currently Amended) A method for maintaining compliance with a payload standard for one or more pieces of equipment, where a first target payload ~~weight~~ is known for the one or more pieces of equipment, the method comprising:

at periodic intervals, obtaining a plurality of payload weight data associated with weights of one or more pieces of equipment;

analyzing the ~~plurality of payload weight data weights~~ based on the payload standard and the first target payload; ~~by:~~

~~calculating a number of the plurality of payload weights that are less than an acceptable payload overload weight for the one or more pieces of equipment, the payload overload weight being based on the target payload weight, and~~

~~calculating a number of the plurality of payload weights that are greater than an unacceptable payload overload weight for the one or more pieces of equipment, the unacceptable payload weight being greater than the acceptable payload overload weight,~~

receiving, as a result of the analysis, a second target payload ~~weight based on at least one of the number of the plurality of payload weights less than the acceptable payload overload weight and the number of the plurality of payload weights greater than the unacceptable payload overload weight; and~~

modifying loading practices for the one or more pieces of equipment based on the second target payload ~~weight~~.

41. (Currently Amended) A method for scheduling maintenance for one or more pieces of equipment subject to a payload standard, the method comprising:

receiving ~~a plurality of~~ payload weight data associated with weights of the one or more pieces of equipment;

~~receiving a target payload weight for the one or more pieces of equipment;~~

analyzing the ~~plurality of~~ payload ~~weights~~ weight data for compliance with the payload standard by:

~~calculating a number of the plurality of payload weights that are less than an acceptable payload overload weight for the one or more pieces of equipment, the payload overload weight being based on the target payload weight, and~~

~~calculating a number of the plurality of payload weights that are greater than an unacceptable payload overload weight for the one or more pieces of equipment, the unacceptable payload weight being greater than the acceptable payload overload weight; and~~

scheduling maintenance for the one or more pieces of equipment based on the analysis.